

## Transition probability matrix for fuzzy autocatalytic set of fuzzy graph type-3

### Abstract

Fuzzy Autocatalytic Set of Fuzzy Graph of Type-3 looking at its adjacency matrix was introduced in the modeling of clinical waste incineration process. Several properties had been developed through that investigation particularly on its relations to Perron-Frobenius theory. We anticipate that many results and properties can be further scrutinized looking at the FACS in the light of its transition probability matrix representation. With this in mind, we have embarked into this approach. This paper highlighted our findings on the investigation on FACS and relates to fundamental Ergodic theorem for Markov Chain and show the existence of Perron vector. Similarity between properties of adjacency matrix and transition matrix is discussed.